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REMARKS

Claims 1-36 are now pending in the Application. Claims 9-18 are allowed and claims 1, 4-8, 19, 20, 22-27, 33, 34, and 36 are rejected. Claims 2, 3, 21, 28-32 and 35 are objected to as depending from a rejected base claim, but would be allowable if rewritten in independent form. With this reply, claims 1, 20, 33, and 36 are amended. Upon entry of the amendments, claims 1-36 remain pending.

Support for the amendments to claims 1, 20, and 36 can be found in the specification as originally filed, for example at paragraph [0041]. Claim 33 is amended to provide proper dependency. Applicants respectfully request entry of the amendments.

INTERVIEW WITH EXAMINER JOLLEY

Applicants would like to thank Examiner Jolley for the courtesies extended to Applicants' representative in a telephone interview on November 13, 2006. The outstanding rejections were discussed in light of the Final Rejection. Agreement was reached that amendments such as suggested in the Office Action would be considered After Final. No agreement was reached with respect to claim 19.

REJECTION UNDER 35 U.S.C. § 112

Claims 33-34 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 33 has been amended to depend from claim 32. Applicants respectfully request the rejection be withdrawn.

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ART REJECTIONS OVER THE HEDGE REFERENCE

Claims 1, 4-6, 20, and 36 are rejected as anticipated by the Hedge reference (U.S. Patent No. 6,395,325). Claims 7-8 and 22-27 are rejected as obvious in view of the Hedge reference. Applicants have amended claims 1, 20, and 36 according to the recommendation of the Examiner in the Final Rejection. Accordingly, Applicants respectfully traverse the rejections as applied to the amended claims and request reconsideration.

Applicants have amended the claims to recite that evaporating causes migration/movement of the polymer across the porous substrate to the areas corresponding to openings of the pattern member, which is the mechanism by which Applicants' invention works. According to the Final Rejection at page 3, such amended claims would be allowable over the prior art. In the interview, Examiner Jolley confirmed that such amendments would overcome the rejections both under § 102 and § 103 discussed above. Applicants appreciate the Examiner's willingness to consider the amendments after a final rejection.

In view of the amendments to claims 1, 20, and 36, Applicants respectfully request that the art rejections over the Hedge reference be withdrawn.

REJECTION OF CLAIM 19

Claim 19 is rejected as anticipated or obvious over the Mathias reference (U.S. Publication 2004/0137311) for the reasons set forth in the non-final Office Action and for the reasons discussed in section 3 of the Final Rejection. Applicants respectfully

request reconsideration in view of their comments in earlier prosecution and the following remarks.

The Final Rejection states Applicants' earlier arguments are not convincing because it is the Examiner's position that both the Mathias reference and the current specification describe "similar products comprising regions of both hydrophilic and hydrophobic areas". That is, the Examiner takes the position that the product of the Mathias reference has the same structure as that of current claim 19; for this reason, the prior art reference disclosing the same structure is said to anticipate the product-by-process claim 19 even though it is made by a different process.

In the reply to the non-final Office Action of July 31, 2006, Applicants argued that the diffusion media of the Mathias reference is not identical to the diffusion media of claim 19. As elaborated there, the diffusion media of the Mathias reference is formed by pulling dust through a substrate. The dust comes from a sintered PTFE layer applied to at least one side of the diffusion medium. The dust is generated from grinding and the dust is pulled into the body of the diffusion layer, for example by vacuum. In the July 31 reply, Applicants stated that in the Mathias reference the particles are deposited and captured in the body of the membrane.

Applicants would like to respectfully draw the Examiner's attention to the following passages quoted from the Mathias reference which confirm the structure described earlier by Applicants. At paragraph 15, the Mathias reference states:

"Referring to Figure 2, a porous diffusion media 20 according to the present invention comprises a porous matrix 22 carrying a distribution of water transfer particles 24."

Later at paragraph 16, the reference states:

"As is described in further detail below, the water transfer particle 24 may be generated and distributed throughout the matrix 22 in a number of ways. For example, according to one embodiment...the particles 24 are generated by grinding the first major face 21 of the diffusion media 20 to create a dust and drawing the dust through the matrix 22 with a vacuum draw." *Underlining added for emphasis.*

At paragraph 19, the reference states:

"It is noted that the water transfer particles 24 may be selected such that they are sufficiently small enough to permit migration of the particles 24 through a thickness dimension d of the porous matrix 22. In this manner, the particles 24 may be distributed throughout the diffusion media by placing the media 20 and particles 24 carried by the media 20 under a vacuum draw...." *Underlining added for emphasis.*

Based on the above, and Applicants' earlier arguments, it is seen that the structure of the Mathias reference and that of claim 19 differ at least in the relatively hydrophilic regions. Both the reference and claim 19 describe diffusion media that are relatively hydrophilic in some parts and relatively hydrophobic in other parts. In both the reference and claim 19, the hydrophobic regions are made of PTFE treated carbon fiber diffusion media.¹

However, the two structures are quite different in the relatively hydrophilic regions. In the Mathias reference, the hydrophilic regions comprise PTFE treated carbon fiber paper filled with graphite particle dust, as seen in the above quoted passages. The reference uses a grinding method to produce dusts, and the dusts are accumulated in certain regions of the fiber network structure. The invention of claim 19 on the other hand is based on simply changing the PTFE coverage pattern of the carbon fibers themselves. This does not change the fiber network structure as in the

¹ Although other hydrophobic polymers other than PTFE can be used, reference is made to PTFE in this discussion for illustration.

reference because the resulting PTFE coating is a thin layer mostly on the surface. To illustrate, attention is respectfully drawn to Figs. 3b, 4b, and 5b of the current application, showing deposition of the polymer predominantly on the surface in diffusion media according to the invention of claim 19.

To further illustrate the differences, as a result of the process taught in the reference, the porosity in the particle-filled region is substantially reduced relative to the surrounding region not filled with particles. In claim 19 on the other hand, the hydrophilic region comprises carbon fiber paper that is not PTFE treated. The porosity of this region is essentially the same as that of the surrounding paper, because it does not contain the dust particles.

On the basis of the above discussion, and in view of their earlier comments in prior prosecution, Applicants respectfully submit that the structure of the diffusion media according to claim 19 is different from that produced by any methods disclosed in the Mathias reference. Furthermore, Applicants respectfully submit the difference in structure is plain on the face of the references, and that such arguments for structural differences do not amount merely to attorney argument. On that basis, the Examiner is respectfully urged to reconsider and withdraw the rejection of claim 19 over the Mathias reference, passing claim 19 along to a state of allowability with the others. In the alternative, the Examiner is respectfully requested to issue an Advisory Action stating whether the rejection of claim 19 can be reconsidered at this time.

CONCLUSION

For the reasons discussed above, Applicants believe that claims 1-36 as amended are in an allowable state and respectfully request an early Notice of Allowance. The Examiner is invited to telephone the undersigned if that would be helpful expediting prosecution or resolving any issues.

Respectfully submitted,

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